

### **AMENDMENTS TO THE CLAIMS**

This listing of the claims will replace all prior versions and listings of claims in the application:

#### **Listing of Claims:**

Claim 1 (**canceled**).

Claim 2 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, additionally comprising an operating head drive motor coupled to the drive shaft, wherein the drive motor comprises a variable speed drive motor that delivers a constant voltage for any specified rotational output.

Claim 3 (**currently amended**): An interventional catheter assembly of claim [[2]] 37, wherein the current delivered to the drive motor is adjusted, under load conditions, if the voltage for any specified rotational output is insufficient to produce the specified rotational output under load conditions.

Claim 4 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, additionally comprising an operating head drive motor coupled to the drive shaft, wherein the drive motor employs a cascaded variable regulator voltage source.

Claim 5 (**currently amended**): An interventional catheter assembly of claim [[1]] 38, wherein the control pod incorporates selectable operator adjustment features allowing an operator to increase and decrease rotational speed delivered to the drive shaft.

Claims 6-8 (**canceled**).

Claim 9 (**currently amended**): An interventional catheter assembly of claim [[1]] 38, ~~additionally having an aspiration motor comprising~~ wherein the aspiration pump comprises a multi-lobed vacuum pump that provides a consistent, high level of aspiration during operation of the interventional catheter assembly.

Claim 10 (**currently amended**): An interventional catheter assembly of claim [[1]] 38, additionally having an aspiration system comprising a plurality of vacuum pumps connected in series.

Claims 11-15 (**canceled**).

Claim 16 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, wherein the operating head, catheter system and control pod are provided as a sterile, disposable kit.

Claim 17 (**original**): An interventional catheter assembly of claim 16, additionally comprising a fluid receptacle in fluid communication with the catheter system.

Claim 18 (**canceled**).

Claim 19 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, wherein the control pod incorporates a guidewire brake operable to clamp a guidewire in a stationary position when engaged and to allow translation of the guidewire through the brake when released.

Claims 20-22 (**canceled**).

Claim 23 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, additionally comprising an extendable, telescoping guidewire support mounted in the control pod.

Claims 24-27 (**canceled**).

Claim 28 (**currently amended**): An interventional catheter assembly of claim [[24]] 38, wherein the console unit displays output operational information including at least three of operating head rotation rate, operating head advance rate, aspiration rate, elapsed time of operation, aspiration volume, infusion rate, infusion volume and fluid flow rate at the target site.

Claim 29 (**currently amended**): An interventional catheter assembly of claim [[24]] 38, wherein the console unit is provided as a reusable component.

Claim 30 (**currently amended**): An interventional catheter assembly of claim [[24]] 38, wherein the console unit comprises a control feature for selecting a level of aspiration.

Claim 31 (**currently amended**): An interventional catheter assembly of claim [[24]] 38, wherein the console unit comprises a control feature for selecting a level of infusion.

Claim 32 (**currently amended**): An interventional catheter assembly of claim [[24]] 38, wherein the console unit is connectable to an infusion source.

Claim 33 (**currently amended**): An interventional catheter assembly of claim [[1]] 37, wherein the catheter system is connectable to an infusion source.

Claim 34 (**canceled**).

Claim 35 (**currently amended**): An interventional catheter system of claim [[34]] 38, wherein the console unit implements at least automated operating condition based on at least one parameter input by an operator, wherein the at least one parameter is selected from the group consisting of: lesion length; lesion type; lesion character; rate of blood flow; volume of blood flow; percentage of restriction; lumen type; lumen location; and lumen diameter. [incorporates sm previously in 34]

Claim 36 (**currently amended**): An interventional catheter system of claim [[34]] 35, wherein the at least one operating condition is selected from the group consisting of: operating head rotation rate and/or profile; operating head advance rate and/or profile; operating head size; aspiration rate, volume and/or profile; infusion rate, volume and/or profile.

Claim 37 (**new**): An interventional catheter assembly comprising: an operating head coupled to a drive shaft and a drive assembly for rotation; a catheter system coupled at a proximal end with a control pod and coupled at or near a distal end with the operating head, the catheter system

including a sealed lumen for aspiration of debris from a site of intervention and a sealed lumen for infusion of fluids in proximity to the site of intervention; wherein the control pod houses the drive assembly for rotating the operating head and incorporates an operator adjustment feature allowing an operator to increase and decrease rotational speed delivered to the drive shaft.

Claim 38 (**new**): An interventional catheter assembly comprising: an operating head coupled to a drive shaft and a drive assembly for rotation; a catheter system forming a sealed lumen and communicating at a distal end with the operating head; a control pod housing the drive assembly for rotating the operating head and an operator adjustment feature allowing an operator to increase and decrease rotational speed delivered to the drive shaft; and a console unit incorporating system control and display features, the console unit in electrical communication with the control pod and providing power to the drive assembly, and the console unit additionally comprising a vacuum source providing vacuum for aspiration to the catheter assembly and an infusion source.

Claim 39 (**new**): A console unit for interfacing with an interventional catheter assembly having a cutter assembly for removal of material from a body lumen or cavity and implementing control features based on an operator's input of parameters, the console unit comprising an interface accepting an operator's input of parameters and means for calculating and implementing automated operating conditions based on the parameters input by the operator.

Claim 40 (**new**): A console unit of claim 39, wherein the interface accepts the operator's input of least one of the following parameters: lesion length, lesion type, lesion character, restenosis, rate of blood flow, percentage of restriction, lumen type, lumen location, lumen diameter, desired cutter assembly rotation rate, desired cutter assembly rotation profile, desired cutter assembly advance rate, desired cutter assembly advance profile, desired aspiration rate, desired aspiration profile, desired infusion rate, desired infusion profile, cutter assembly size, and cutter assembly type.

Claim 41 (**new**): A console unit of claim 39, wherein the automated operating conditions calculated and implemented include at least one of the following automated operating conditions: cutter assembly rotation rate; cutter assembly rotation profile; cutter assembly advance rate; cutter assembly advance profile; aspiration rate; aspiration profile; infusion rate; infusion profile; cutter assembly size; and cutter assembly type.

Claim 42 (**new**): A console unit for interfacing with an interventional catheter assembly having a cutter assembly for removal of material from a body lumen or cavity, the console unit comprising a multi-lobed roller aspiration pump capable of providing constant, high levels of aspiration of liquids and/or liquid/debris mixtures and permitting fluid to flow in a conduit through the rollers of the pump at atmospheric pressure.